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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/534,262	03/24/2000	Kanji Hata	2000-0351	2898

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Wenderoth Lind & Ponack LLP  
2033 K Street N W  
Suite 800  
Washington, DC 20006

EXAMINER

CHANG, RICK KILTAE

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 11/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

3-M-

# Office Action Summary

Application No.

09/534,262

Applicant(s)

HATA ET AL.

Examiner

Rick K. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 15-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 18, 2002 has been entered.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "each of said component . . . supply tables" (claim 15, lines 5-10 in the marked-up version), "the third . . . second direction" (claim 15, lines 24-26 in the marked-up version), "cassettes", "stick-shaped component supply means", "pipe member", "bulk components", "a plurality of tables on casters", "the first . . . types of boards" (claim 22, lines 1-5) and "a first or second mounting head section independently movable to a second or first component supply table, respectively" (claim 18) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show one of the mounting head sections sucking components from one component supply table located at another mounting head section as described in the specification (Page 18, lines 1-4). Any structural

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detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 15-17, 19-20, and 22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. the disclosure, as originally filed, fails to provide support for “each of . . . supply tables” (claim 15, lines 5-10 in the marked-up version) and “each of the first . . . the board” in last two lines in claim 15, and “the first . . . types of boards” (claim 22, lines 1-5). “replaceable by being . . . supply tables” (claim 15, lines 7-10 in the marked-up version) and “the first . . . types of boards” (claim 22, lines 1-5) will not be given any patentable weight.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 15-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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There are numerous phrases and clauses in the claims that are vague, indefinite, and/or awkwardly and confusingly worded, and therefore, are not fully understood. The following are examples and they are not the only problems:

Claim 15, line 6 in the marked-up version: "the respective side of the position" lacks positive antecedent basis.

Claim 15 has ambiguous terminology which is unclear whether later recitation of originally recited terms is intended to refer to the originally recited terms. For example, "opposite sides" in line 3 in the marked-up version and "the side" in line 9 in the marked-up version.

Last two lines in claim 15: for example, is the first section movable to the second supply table? Does the second section move out of the way for the first section to encroach into the second section space to pick-up components from the second supply table?

Claim 22: how is it possible for the mounting sections to concurrently perform mounting operations on two different types of boards if the apparatus can only accommodate one type of board at a given moment?

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 15-17 and 19-20, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (US 5,323,528) in view of Kitamura et al (US 5,740,604).

Baker discloses a pair of component supply tables (27) with reels (cassettes are attached at the end of reel), first and second mounting head sections (65, 67), mounting heads are independently movable to pick-up components from their respective tables, and the take-out positions are extending straight line along axis 53.

Bake fails to disclose providing each of the tables with casters and replacing the tables with desired components therein.

Kitamura discloses providing a table with casters (Fig. 3) and replacing the tables with desired components therein (col. 8, lines 57-67, entire 9 and col. 10, lines 1-27) thereby allowing the component table to reload with different types of components at a component reloading station and speeding up the mounting process.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Baker by providing a table with casters and replacing the tables with desired components therein to the Baker's mounting device, as taught by Kitamura, for the purpose of allowing the component table to reload with different types of components at a component reloading station and speeding up the mounting process.

10. Claims 18 and 21-25, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (US 5,323,528) in view of Kitamura et al (US 5,740,604), and further in view of Nakao et al (US 5,743,005).

Baker discloses a pair of component supply tables (27) with reels (cassettes are attached at the end of reel), a pair of U-shaped support frames (29 on both ends of 11) and base structure (29), first and second mounting head sections (65, 67), mounting heads are independently

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movable to pick-up components from their respective tables, and the take-out positions are extending straight line along axis 53.

Bake fails to disclose providing each of the tables with casters, replacing the tables with desired components therein, and extending the board transfer path through openings in the U-shaped support frames.

Kitamura discloses providing a table with casters (Fig. 3) and replacing the tables with desired components therein (col. 8, lines 57-67, entire 9 and col. 10, lines 1-27) thereby allowing the component table to reload with different types of components at a component reloading station and speeding up the mounting process.

Nakao discloses extending the board transfer path through openings in the U-shaped support frames (Fig. 6) thereby allowing the mounting heads to travel shorter distances to mount components for decreasing production time.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Baker by providing a table with casters and replacing the tables with desired components therein to the Baker's mounting device, as taught by Kitamura, for the purpose of allowing the component table to reload with different types of components at a component reloading station and speeding up the mounting process.

Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Baker by extending the board transfer path through openings in the U-shaped support frames to the Baker's mounting device, as taught by Nakao, for the purpose of allowing the mounting heads to travel shorter distances to mount components for decreasing production time.

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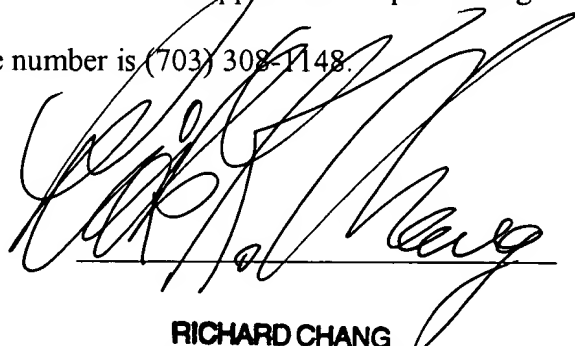
***Conclusion***

**11. Applicants are duly reminded that a full and proper response to this Office Action that includes any amendment to the claims and specification of the application as originally filed requires that the applicant point out the support for any amendment made to the disclosure, including the claims. See 37 CFR 1.111 and MPEP 2163.06.**

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick K. Chang whose telephone number is (703) 308-4784. The examiner can normally be reached on 5:30 AM to 1:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (703) 308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



**RICHARD CHANG  
PRIMARY EXAMINER**

RC  
November 12, 2002